

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Title:

Leonard Forbes et al.

CIRCUITS WITH A TRENCH CAPACITOR HAVING MICRO-ROUGHENED

SEMICONDUCTOR SURFACES

Docket No.:

303.389US2

S

Serial No.: 09/467992

Filed:

December 20, 1999

Due Date: March 16, 2004

Examiner:

Eugene Lee

Group Art Unit: 2815

MS Non-Fee Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

X A return postcard.

- X An Amendment and Response (13 Pages).
- X A Communication Concerning Related Applications (7 pgs.).
- X Formal Drawings (5 pgs.).
- X A copy of the Preliminary Amendment filed October 9, 2003 (with returned PTO stamped postcard) (13 pgs.).

Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

Customer Number 21186

Atty: Viet V. Tong

Reg. No. 45,416

<u>CERTIFICATE UNDER 37 CFR 1.8:</u> The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this <u>16th</u> day of March, 2004.

Name

Signature

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

(GENERAL)

<u>S/N 09/467992</u> <u>PATENT</u>

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Leonard Forbes et al.

Examiner: Eugene Lee

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CIRCUITS WITH A TRENCH CAPACITOR HAVING MICRO-ROUGHENED

SEMICONDUCTOR SURFACES

COMMUNICATION CONCERNING RELATED APPLICATION(S)

Paramissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Applicants would like to bring to the Examiner's attention the following related application(s) in the above-identified patent application:

| Serial/Patent No. 08/889463 6072209 | Filing Date July 8, 1997 | Attorney Docket 303.322US1 | Title FOUR F2 FOLDED BIT LINE DRAM CELL STRUCTURE HAVING BURIED BIT AND WORD LINES |
|-------------------------------------|--------------------------|-------------------------------|---|
| 09/527981 6689660 | March 17, 2000 | 303.322US2 | FOUR F2 FOLDED BIT LINE DRAM CELL STRUCTURE HAVING BURIED BIT AND WORD LINES |
| 09/571352 6476434 | May 16, 2000 | 303.322US3 | FOUR F2 FOLDED BIT LINE DRAM CELL STRUCTURE HAVING BURIED BIT AND WORD LINES |
| 08/889395 6191470 | July 8, 1997 | 303.323US1 | SEMICONDUCTOR-ON-INSULATOR MEMORY CELL WITH BURIED WORD AND BODY LINES |
| 09/510095 6465298 | February 22, 2000 | 303.323US2 | SEMICONDUCTOR-ON-INSULATOR MEMORY CELL WITH BURIED WORD AND BODY LINES |
| 08/889462 6150687 | July 8, 1997 | 303.328US1 | MEMORY CELL HAVING A VERTICAL TRANSISTOR WITH BURIED SOURCE/DRAIN AND DUAL GATES |

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MEMORY CELL HAVING A August 24, 303.328US2 09/139164 VERTICAL TRANSISTOR WITH 6350635 1998 BURIED SOURCE/DRAIN AND DUAL **GATES** MEMORY CELL HAVING A 09/596266 June 16, 303.328US3 VERTICAL TRANSISTOR WITH 6399979 2000 BURIED SOURCE/DRAIN AND DUAL **GATES** MEMORY CELL HAVING A 09/651199 August 30, 303.328US4 VERTICAL TRANSISTOR WITH 2000 6504201 BURIED SOURCE/DRAIN AND DUAL **GATES** METHOD OF MAKING MEMORY July 8, 1997 303.329US1 08/889396 CELL WITH VERTICAL TRANSISTOR 5909618 AND BURIED WORD AND BODY **LINES** MEMORY CELL WITH VERTICAL 09/031620 **February** 303.329US2 TRANSISTOR AND BURIED WORD 6104061 27, 1998 AND BODY LINES MEMORY CELL WITH VERTICAL 09/520649 March 7, 303.329US3 TRANSISTOR AND BURIED WORD 6191448 2000 AND BODY LINES MEMORY CELL WITH VERTICAL 09/789274 **February** 303.329US4 TRANSISTOR AND BURIED WORD 6492233 20, 2001 AND BODY LINES 08/889554 July 8, 1997 303.330US1 ULTRA HIGH DENSITY FLASH **MEMORY** 5973356 A METHOD FOR FORMING HIGH 09/035304 **February** 303.330US2 DENSITY FLASH MEMORY 6238976 27, 1998 ULTRA HIGH DENSITY FLASH 09/866938 303.330US3 May 29, 2001 **MEMORY** 08/889553 July 8, 1997 HIGH DENSITY FLASH MEMORY 303.342US1 5936274

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| 09/137328 6143636 | August 20, 1998 | 303.342US2 | HIGH DENSITY FLASH MEMORY |
|----------------------|---------------------|------------|--|
| 08/939742 6066869 | October 6, 1997 | 303.379US1 | CIRCUIT AND METHOD FOR A FOLDED BIT LINE MEMORY CELL WITH VERTICAL TRANSISTOR AND TRENCH CAPACITOR |
| 09/551027 | April 17, 2000 | 303.379US2 | CIRCUIT AND METHOD FOR A FOLDED BIT LINE MEMORY CELL WITH VERTICAL TRANSISTOR AND TRENCH CAPACITOR |
| 08/944890 6528837 | October 6, 1997 | 303.380US1 | CIRCUIT AND METHOD FOR AN OPEN BIT LINE MEMORY CELL WITH A VERTICAL TRANSISTOR AND TRENCH PLATE TRENCH CAPACITOR |
| 09/143606 6156604 | August 31, 1998 | 303.380US2 | METHOD FOR MAKING AN OPEN BIT LINE MEMORY CELL WITH A VERTICAL TRANSISTOR AND TRENCH PLATE TRENCH CAPACITOR |
| 09/730245 6610566 | December 5, 2000 | 303.380US3 | CIRCUIT AND METHOD FOR AN OPEN BIT LINE MEMORY CELL WITH A VERTICAL TRANSISTOR AND TRENCH PLATE TRENCH CAPACITOR |
| 09/010729 6025225 | January 22, 1998 | 303.389US1 | CIRCUITS WITH A TRENCH CAPACITOR HAVING MICRO- ROUGHENED SEMICONDUCTOR SURFACES AND METHODS FOR FORMING THE SAME |
| 08/944312 5914511 | October 6, 1997 | 303.391US1 | CIRCUIT AND METHOD FOR A FOLDED BIT LINE MEMORY USING TRENCH PLATE CAPACITOR CELLS WITH BODY BIAS CONTACTS |

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| 09/138796 6156607 | August 24, 1998 | 303.391US2 | METHOD FOR A FOLDED BIT LINE MEMORY USING TRENCH PLATE CAPACITOR CELLS WITH BODY BIAS CONTACTS |
|----------------------|----------------------|------------|--|
| 08/939732 5907170 | October 6, 1997 | 303.393US1 | CIRCUIT AND METHOD FOR AN OPEN BIT LINE MEMORY CELL WITH A VERTICAL TRANSISTOR AND TRENCH PLATE TRENCH CAPACITOR |
| 09/138794 6165836 | August 24, 1998 | 303.393US2 | CIRCUIT AND METHOD FOR AN OPEN BIT LINE MEMORY CELL WITH A VERTICAL TRANSISTOR AND TRENCH PLATE TRENCH CAPACITOR |
| 09/742568 6537871 | December 20, 2000 | 303.393US3 | CIRCUIT AND METHOD FOR AN OPEN BIT LINE MEMORY CELL WITH A VERTICAL TRANSISTOR AND TRENCH PLATE TRENCH CAPACITOR |
| 09/028249 5963469 | February 24, 1998 | 303.399US1 | VERTICAL BIPOLAR READ ACCESS FOR LOW VOLTAGE MEMORY CELL |
| 09/328074 6317357 | June 8, 1999 | 303.399US2 | VERTICAL BIPOLAR READ ACCESS FOR LOW VOLTAGE MEMORY CELL |
| 09/031621 5991225 | February 27, 1998 | 303.405US1 | PROGRAMMABLE MEMORY ADDRESS DECODE ARRAY WITH VERTICAL TRANSISTORS |
| 09/313049 6153468 | May 17, 1999 | 303.405US2 | PROGRAMMABLE MEMORY ADDRESS DECODE ARRAYS WITH VERTICAL TRANSISTOR |
| 09/669281 6597037 | September 26, 2000 | 303.405US3 | PROGRAMMABLE MEMORY ADDRESS DECODE ARRAYS WITH VERTICAL TRANSISTOR |

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| 09/032617 6124729 | February 27, 1998 | 303.406US1 | FIELD PROGRAMMABLE LOGIC ARRAYS WITH VERTICAL TRANSISTORS |
|----------------------|----------------------|------------|--|
| 09/520494 6486027 | March 8, 2000 | 303.406US2 | FIELD PROGRAMMABLE LOGIC ARRAYS WITH VERTICAL TRANSISTORS |
| 09/129047 6208164 | August 4, 1998 | 303.407US1 | PROGRAMMABLE LOGIC ARRAY WITH VERTICAL TRANSISTORS |
| 09/756089 6515510 | January 8, 2001 | 303.407US2 | PROGRAMMABLE LOGIC ARRAY WITH VERTICAL TRANSISTORS |
| 09/756099 6486703 | January 8, 2001 | 303.407US3 | PROGRAMMABLE LOGIC ARRAY WITH VERTICAL TRANSISTORS |
| 09/128848 6134175 | August 4, 1998 | 303.408US1 | MEMORY ADDRESS DECODE ARRAY WITH VERTICAL TRANSISTORS |
| 09/650600 6498065 | August 30, 2000 | 303.408US2 | MEMORY ADDRESS DECODE ARRAY WITH VERTICAL TRANSISTORS |
| 09/028805 6242775 | February 24, 1998 | 303.410US1 | CIRCUITS AND METHODS USING VERTICAL, COMPLEMENTARY TRANSISTORS |
| 09/514493 6294418 | February 29, 2000 | 303.410US2 | CIRCUITS AND METHODS USING VERTICAL, COMPLEMENTARY TRANSISTORS |
| 09/028807 6246083 | February 24, 1998 | 303.412US1 | VERTICAL GAIN CELL AND ARRAY FOR A DYNAMIC RANDOM ACCESS MEMORY AND METHOD FOR FORMING THE SAME |
| 09/879592 | June 12, 2001 | 303.412US2 | VERTICAL GAIN CELL AND ARRAY FOR A DYNAMIC RANDOM ACCESS MEMORY AND METHOD FOR FORMING THE SAME |

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VERTICAL GAIN CELL AND ARRAY June 12, 303.412US3 09/879602 FOR A DYNAMIC RANDOM ACCESS 6680864 2001 MEMORY AND METHOD FOR FORMING THE SAME CIRCUITS AND METHODS FOR A 09/028727 **February** 303.462US1 24, 1998 STATIC RANDOM ACCESS MEMORY 6304483 USING VERTICAL TRANSISTORS CIRCUITS AND METHODS FOR A 303.464US1 09/060048 April 14, MEMORY CELL WITH A TRENCH 1998 6043527 PLATE TRENCH CAPACITOR AND A VERTICAL BIPOLAR READ DEVICE CIRCUITS AND METHODS FOR A 09/498433 February 4, 303.464US2 2000 MEMORY CELL WITH A TRENCH 6381168 PLATE TRENCH CAPACITOR AND A VERTICAL BIPOLAR READ DEVICE CIRCUITS AND METHODS FOR A 09/916759 July 27, 303.464US3 6429065 2001 MEMORY CELL WITH A TRENCH PLATE TRENCH CAPACITOR AND A VERTICAL BIPOLAR READ DEVICE CIRCUITS AND METHODS FOR A 09/916769 July 27, 303.464US4 2001 MEMORY CELL WITH A TRENCH 6418050 PLATE TRENCH CAPACITOR AND A VERTICAL BIPOLAR READ DEVICE CIRCUITS AND METHODS FOR A 09/916768 July 27, 303.464US5 6434041 2001 MEMORY CELL WITH A TRENCH PLATE TRENCH CAPACITOR AND A VERTICAL BIPOLAR READ DEVICE 10/230244 August 28, 303.406US3 FIELD PROGRAMMABLE LOGIC 2002 ARRAYS WITH VERTICAL **TRANSISTORS** 10/305549 November 303.408US3 MEMORY ADDRESS DECODE 26, 2002 ARRAY WITH VERTICAL **TRANSISTORS**

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| 10/361986 | February 11, 2003 | 303.380US4 | CIRCUIT AND METHOD FOR AN OPEN BIT LINE MEMORY CELL WITH A VERTICAL TRANSISTOR AND TRENCH PLATE TRENCH CAPACITOR |
|-----------|----------------------|---|--|
| 10/738449 | December 16, 2003 | 303.412US4 | VERTICAL GAIN CELL AND ARRAY FOR A DYNAMIC RANDOM ACCESS MEMORY AND METHOD FOR FORMING THE SAME |
| | | Respectfully | submitted, |
| | | LEONARD 1 | FORBES ET AL. |
| | | By Applican | ts' Representatives, |
| | | SCHWEGMA P.O. Box 293 Minneapolis (612) 373-69 | , MN 55402 |
| D | 2/11/611 | D (| MUC |

Date_

Bv

Viet V. Tong

Reg. No. 45,416

<u>CERTIFICATE UNDER 37 CFR 1.8:</u> The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this <u>16th</u> day of <u>March</u>, 2004.

Name

Amy moriarty

Signature Signature